MONTANA

water pollution control program

Water Quality Bureau
Environmental Sciences Division
Department of Health and Environmental Sciences

ERRATA SHEET

On page 2, at the beginning of the first paragraph, the date 1922 should read 1911.

There are also three misspellings:

(1) Page 2, second paragraph - fortune;

(2) Page 16, second paragraph - construction sites; and

(3) Page 18, first italics sentence - waters.

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Quality Water For Montana Tomorrow

HISTORICAL DEVELOPMENT OF WATER POLLUTION CONTROL IN MONTANA

At the turn of the century, typhoid fever was prevalent in many Montana towns. There were badly contaminated water supplies from which whole towns drank; many towns allowed untreated sewage to be discharged into streams and irrigation ditches used as water supplies for dairy cattle and downstream towns; and the streets of many towns, due to a lack of storm sewers, served as open sewers after intense rainfalls and spring runoff. Typhoid was only one of a number of diseases which were rampant in Montana in the early days, including smallpox, diphtheria, and Rocky Mountain spotted fever, although the latter are not water-borne diseases.

In 1901, the state legislature created the State Board of Health to deal with public health matters of the state and required each county to have a local board of health to cope with the public health needs of the immediate vicinities. In spite of the rather broad duties and powers vested in the State Board of Health and county boards of health, neither had powers under the law to stop people, towns and companies from disposing of their untreated sewage and wastes into streams and irrigation ditches. An early report of the State Board of Health (1902-1904) reads: "*A single stool from a typhoid fever patient thrown into one of our small streams or irrigation ditches from which milk cows drink might readily result in infection with typhoid fever of hundreds of people, through the agency of milk. We know of one little town with an irrigating ditch running through it. This ditch is used as a sewer by most of the town, and it is no uncommon sight in that town to see the bottom of the ditch almost covered with feces. From this ditch, all the cows in the neighborhood drink, and some of the people depend on the waters for domestic use. What a chance to start an epidemic of typhoid fever! And yet, the attorneys tell us that we have no power under our laws to stop such conditions.*"

Conditions such as described laid the groundwork for more exact state legislation to control sewage disposal and protect domestic water supplies. In 1907, the state legislature passed Montana's first stream pollution law. This law prohibited the discharge of raw sewage and other polluting matter to surface waters used for drinking water, ice supply and other domestic purposes by cities, towns, and public institutions. Under the law, the State Board

of Health ordered every city in the state to construct a sewage treatment works.

In 1922, the 1907 law was amended due to local pressures, and treatment was no longer mandatory unless the State Board of Health could prove in a district court that a particular sewage system endangered domestic water or an ice supply. Prior to the 1917 legislative session, a typhoid fever epidemic occurred in Chinook, Harlem, and Laurel. This epidemic, and particularly the Harlem epidemic (106 cases, 5 deaths), was responsible for a change in the 1911 amendments. Treatment was again required, but rather than a requirement by law, it was at the discretion of the Board of Health. The law remained the same until 1945 at which time it was changed to read essentially as it was originally enacted in 1907.

The incidence of typhoid fever in Montana has declined dramatically since 1903 when records were first kept. In 1910, typhoid ranked among the top ten causes of deaths in Montana, but today cases of typhoid are so infrequent that this good fortunie is taken for granted. Improvements in the distribution, treating and handling of water, and in treatment and disposal of our sewage wastes have been responsible for this success, as has improved personal hygiene.

In 1929 the State Board of Health began to recognize that a multitude of materials may occur in waters which could adversely affect public health, domestic water supplies and other beneficial uses such as fish propagation and water for livestock and irrigation. Water quality up to this time had been gauged by bacteriological examinations and reported fecal contamination. Thus began a series of stream pollution studies under limited funding and manpower to evaluate industrial, municipal and agricultural water pollution problems and water quality needs. The objective being possible enactment of comprehensive legislation to control stream pollution and protect the beneficial uses of our lakes and streams.

In 1955, the state legislature passed a water pollution control law to protect domestic water supplies, fish, wildlife, and other aquatic life and recreational, industrial and agricultural uses. The law required that Montana streams be classified according to their present and future most beneficial uses and that water quality

criteria and minimum waste treatment requirements be adopted to protect each classified beneficial use. The classification of our streams and adoption of water quality criteria was accomplished in 1960. Except for some later revisions upgrading the standards to reflect water quality improvements, the standards are essentially the same.

In 1972, Congress enacted the Federal Water Pollution Control Act Amendments (Public Law 92-500). The federal law has had a profound effect on Montana's water pollution control program. Changes were made in the state's water pollution control law in 1973 to meet federal requirements to administer at the state level the national waste discharge permit program (NPDES) and to broaden the enforcement capabilities of the state law. Along with increased state funding, substantial federal funds have been allocated to Montana to assist implementation of a comprehensive state water pollution control program. Consequently, greater strides have been made in improving domestic sewage and industrial waste treatment and in protecting our state's surface waters.

ADMINISTRATION OF THE WATER POLLUTION CONTROL LAW

In 1971, executive reorganization created the Department of Health and Environmental Sciences, along with 18 other departments. Many of the duties and powers of the State Board of Health (now called the Board of Health and Environmental Sciences) were transferred to the Department, as were the administrative and regulatory responsibilities of the Water Pollution Control Advisory Council.

The Board and the Department are separate executive units; and under the water pollution control law have separate and distinct functions and powers. The Department of Health and Environmental Sciences is responsible for the administration of the state's water pollution control law. This involves issuance of waste discharge permits, enforcement of the law and rules thereof, and carrying out water quality monitoring and investigations. The Water Quality Bureau within the Department is responsible for all functions of the Department concerning matters of water pollution.

The Board of Health and Environmental Sciences (consisting of seven members appointed by the Governor) adopts the rules and water quality standards which the Department administers. The Board has the power to issue orders to prevent pollution and hold hearings to make determinations in controversies where a person, party, municipality, or industry is not satisfied with a Department action.

The Department of Health and Environmental Sciences receives policy guidance and direction on issues pertaining to water pollution from the permanently established Water Pollution Control Advisory Council. The Council consists of eight members appointed by the Governor and the directors of the Departments of Fish and Game, Agriculture, Natural Resources and Conservation, and Health and Environmental Sciences, as required by law. Membership represents state and local government, industry, agriculture, recreation and fish and wildlife interests.

The Department of Health and Environmental Sciences' Legal Division, acting as an agent of the Attorney General, represents the Department in all water pollution enforcement matters and provides the necessary guidance and assistance for statutory development.

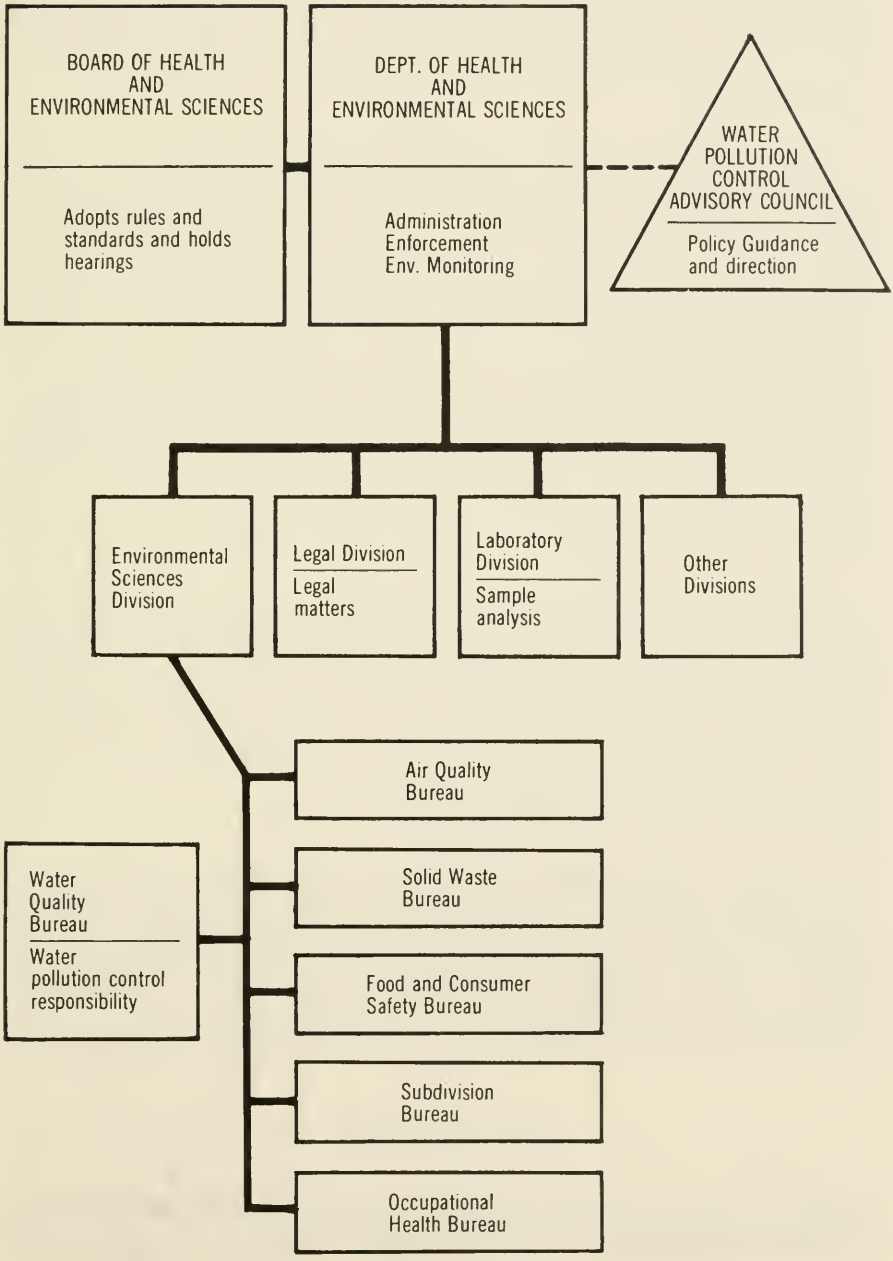
The Laboratory Division within the Department provides the capability and services of conducting the various analyses necessary for the surveillance, monitoring and enforcement activities of the Department.

MONTANA'S WATER POLLUTION CONTROL LAW
Section 69-4801 through 69-4827, R.C.M. 1947

Goals

The goal of the state water pollution control law is stated in the beginning of the law: "(1) to conserve water by protecting, maintaining and improving the quality and potability of water for public water supplies, wildlife, fish and aquatic life, agriculture, industry, recreation and other beneficial uses; and (2) to provide a comprehensive program for the prevention, abatement and control of water pollution."

ORGANIZATIONAL CHART ILLUSTRATING
WATER POLLUTION CONTROL
STRUCTURE IN MONTANA



This goal requires that our state waters be maintained and protected as a multiple-use resource. When state waters are used for a beneficial purpose the quality in which they are returned after use must not impair the receiving water's assigned beneficial use. This is an important conservation protection requirement necessitating wise water-use management and wastewater treatment practices.

Unlawful Acts

The water pollution control law makes it unlawful to cause pollution of any state waters or to place or cause to be placed any wastes in a location where they are likely to cause pollution of any state waters. It is also unlawful to discharge sewage, industrial wastes, or other wastes into any state waters without a current wastewater discharge permit from the Department of Health and Environmental Sciences. Any discharge of wastewater without a permit from the Department or a discharge which is not consistent with the conditions and limitations imposed by a permit constitutes a violation of the state water pollution control law.

What is a state water?

A state water is inclusive of almost all waters of Montana. It is defined in the law as "any body of water, irrigation system or drainage system either surface or underground" and includes intermittent streams and their channels. It does not apply to irrigation systems where waters are used up within the system.

What is a wastewater discharge?

A wastewater discharge is considered the addition or release of treated or untreated sewage, industrial wastes, agricultural wastes, mining wastewater or other pollutants to state waters through a pipe, culvert, ditch, channel, conduit or other similar discernible, confined or discrete conveyance.

VIOLATIONS

The Montana water pollution control law prohibits the disposal or release of any wastes into state waters or in a place where they may

cause pollution of state waters. "Wastes" referred to in the law include:

1. sewage from residences, institutions, industries, businesses, public buildings, either human or animal;

2. industrial wastes from the process of business or industry and from the development of a natural resource;

3. garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, sand, ashes, slaughterhouse wastes, oil, grease, tar, heat, chemicals, dead animals, animal wastes, sediment (sand, gravel and soil), wrecked and discarded equipment, radioactive materials, solid waste, and all other substances that may pollute state waters.

A discharge of wastes into a state water may occur only when authorized by a permit from the Department of Health and Environmental Sciences. The concentration and volume of these waste discharges are controlled and monitored to insure that their effects on the receiving stream do not impair its beneficial use.

The Department of Health and Environmental Sciences has authority to take civil action or file an injunction against anyone violating any provision of the water pollution control act; any of its rules (water quality standards and wastewater discharge permit rule); the limits and conditions of a discharge permit; or against anyone who ignores an order by the Department to clean up a waste or take necessary corrective action as prescribed by the Department.

The penalties are stiff for violation. A civil penalty can bring up to $10,000 per day, each day constituting a separate violation. A willful or negligent violation can bring a criminal penalty not to exceed $25,000 per day of violation or by imprisonment for not more than one year or both. Subsequent convictions against the same person can bring $50,000 per day of violation or imprisonment up to two years, or both.

Citizen Complaints

The Bureau encourages citizens to become familiar with the water pollution control law and report suspected violations. When a

citizen complaint is received by the Bureau, it is followed up with a field investigation to determine possible violations of the law and the need for corrective action. Complaints can be reported to the Water Quality Bureau in Helena (555 Fuller Avenue, Helena, 59601, telephone number 449-2406) or with either of its branch offices in Kalispell (2nd floor-M & M Building, 755-5521) or Billings (3302 2nd Ave. North, phone 252-5697). Complaints can also be filed with any Fish and Game district headquarters where they will be referred to the Water Quality Bureau.

Information needed when a complaint is filed includes: Name, address and phone number of person reporting the complaint; description and location of the suspected violation and type of waste involved; date and time; and name of party causing the suspected violation.

WATER QUALITY STANDARDS

Basis for Standards

We have recently begun to realize in Montana that water is not an unlimited resource. Increased population, industrial and agricultural growth in Montana has and will continue to intensify demands on our water and land resources. As these demands increase in the future, more of our waters will be used and reused for various beneficial uses. Our ability to repeatedly use these waters will be contingent upon their quality and our ability to protect that quality for continued beneficial use.

As a society we have placed various values on our water resources and over the years have associated with them certain legitimate beneficial uses. Uses for public water supply and other domestic purposes, industrial water supply, agricultural use, recreation and fish, wildlife, and other aquatic life needs have been recognized as legitimate beneficial uses important to our quality of life.

Enforceable water quality standards are the yardstick used in protecting our waters. The standards assign specific beneficial uses to all stream segments and establish the desired level of protection for each use.

Montana Standards

The Montana Water Quality Standards is a rule necessitated by law and adopted by the Board of Health and Environmental Sciences. The Montana standards include a classification of all our surface waters as to their present and future most beneficial uses. The standards establish the minimum instream water quality and waste treatment requirements to protect the beneficial uses. The standards also serve as a frame of reference for determining the occurrence of water pollution. Pollution is regarded as *any contamination or other alteration of the physical, chemical, or biological properties of any state waters which exceeds the water quality standards or impairs a prescribed beneficial use.*

Slash and forest debris left in creek bottoms after logging operations is an example of a violation of the Montana Water Pollution Control Law. Slash left in this manner disrupts the stream flow, alters the temperature and dissolved oxygen of the water, and triggers sedimentation.

Nondegradation

Many Montana streams have a quality which is much higher than the existing water quality standards. New sources of pollution

could degrade these streams without violating the state's water quality standards. To protect these high quality streams from such a fate, a non-degradation clause was included in the state law. The law instructs the Board of Health and Environmental Sciences to require industrial, private and public projects and developments which would constitute a new source or increased source of pollution to provide the degree of waste treatment necessary to maintain the existing high water quality. A non-degradation policy is currently being formulated to provide uniformity in its application to new resource developments and discharges.

WASTEWATER DISCHARGE PERMITS

The Montana Pollutant Discharge Elimination System Rule (MPDES) adopted by the Board of Health and Environmental Sciences provides the mechanism for authorizing and controlling point source discharges to state waters.

Point source discharges include discharges to state waters from industrial and municipal waste treatment facilities and animal confinement facilities, regardless of size, which at any time discharge drainage water or manure to a state water.

Examples of operations often requiring a discharge permit are:

- sewage treatment plants
- construction projects with dewatering activities
- water treatment works
- planned industrial waste discharges
- existing industrial waste treatment facilities which discharge
- small and large mining operations discharging process water (i.e., placer, strip and hardrock)
- municipal storm sewers considered to be significant sources of pollution
- feedlots, auction yards, dairies, swine operations and other animal confinement operations located in close proximity to a water course.
- fish rearing ponds and hatcheries.

The water pollution control law and its permit rule requires any person, agency, or company discharging or planning to discharge wastewater to state waters to make application with the Department of Health and Environmental Sciences for a wastewater discharge permit.

The discharge permit is not a license to pollute. The permit regulates what may be discharged, how much and when. In some cases, no discharge may be a condition of the permit. If the discharger cannot readily meet the requirements of the permit, target dates are set for which specified levels of achievement are to be met, called a compliance schedule. The compliance schedule commits the discharger to improve, reduce, or eliminate his wastewater discharge in an economically feasible and orderly fashion. The goal of the compliance schedule is to bring discharges into compliance with conditions of the discharge permit and meet the state's water quality standards.

Permit Application Procedure

1. If you are unsure as to whether your operation requires a discharge permit, contact the Water Quality Bureau, State Department of Health and Environmental Sciences, 555 Fuller Avenue, Helena, Montana or phone at 449-2406.

2. If, after contacting the Water Quality Bureau, your operation and waste handling practices are thought to require a wastewater discharge permit, you will be supplied with the necessary application form.

3. Upon receipt of a completed application, the Department of Health and Environmental Sciences will make a preliminary determination to issue or deny the permit, or prescribe the conditions under which the permit will be issued.

4. The permit process invites public input from interested groups through public notices. All preliminary determinations allow 30 days for public comment. If an interested person desires, he may request a report of the Department's preliminary determination and draft permit to study for comment. Existing permits are also open for public review and comment. Public participation is encouraged by the Department of Health and Environmental Sciences. If significant public interest is demonstrated, the Department will hold a public hearing. Requests for a public hearing must be made within the 30-day comment period posted in the public notice.

5. Upon review and evaluation of all public comment and testimony, the Department will issue its final determination whether to issue or deny the permit. A permit cannot be issued should the Regional Administrator of EPA be adverse to its issuance.

6. Applications for a discharge permit must be filed at least 180 days prior to a planned discharge.

Untreated raw blood flows from a packing plant pipe into a small creek emptying into the Yellowstone River (1968). The present waste discharge permit program does not allow water quality degradation as illustrated in this photograph. A discharge permit would be needed and would require wastewater treatment to improve effluent quality.

Animal confinement facilities, regardless of size, which at any time discharge drainage water or manure to a state water must have a waste discharge permit. The waste discharge permit prohibits the discharge of pollutants except under extreme precipitation occurrences as specified in the permit.

WATER MONITORING AND ANALYSIS

Water Supplies

Community water supplies and other public water supplies are monitored by the Department of Health and Environmental Sciences for bacterial contamination on a routine basis. Individual and private well samples are analyzed by the Department for a nominal fee. Persons planning to submit a water sample for bacterial examination are advised to contact their local health department or the state health department before submitting a sample to find out proper sampling procedures. Montana's water supply program is currently being expanded to assume responsibility for the Federal Safe Drinking Water Act. More information will be available in a supplemental information pamphlet.

Wastewater Discharges

Industrial and municipal dischargers are compliance monitored by the Water Quality Bureau on a scheduled basis and are required to submit self-monitoring data on a periodic basis. Effluent monitoring data is used to evaluate waste treatment efficiency and in determinations of permit violations. Self-monitoring and compliance monitoring data for all dischargers is available for public inspection.

Environmental Monitoring and Special Studies

Statewide monitoring at selected monitoring stations is conducted on a scheduled basis to characterize baseline water quality and monitor quality changes. Special studies and intensive monitoring are conducted where unusual or potential water quality problems have occurred or could occur in the future.

Laboratory Division

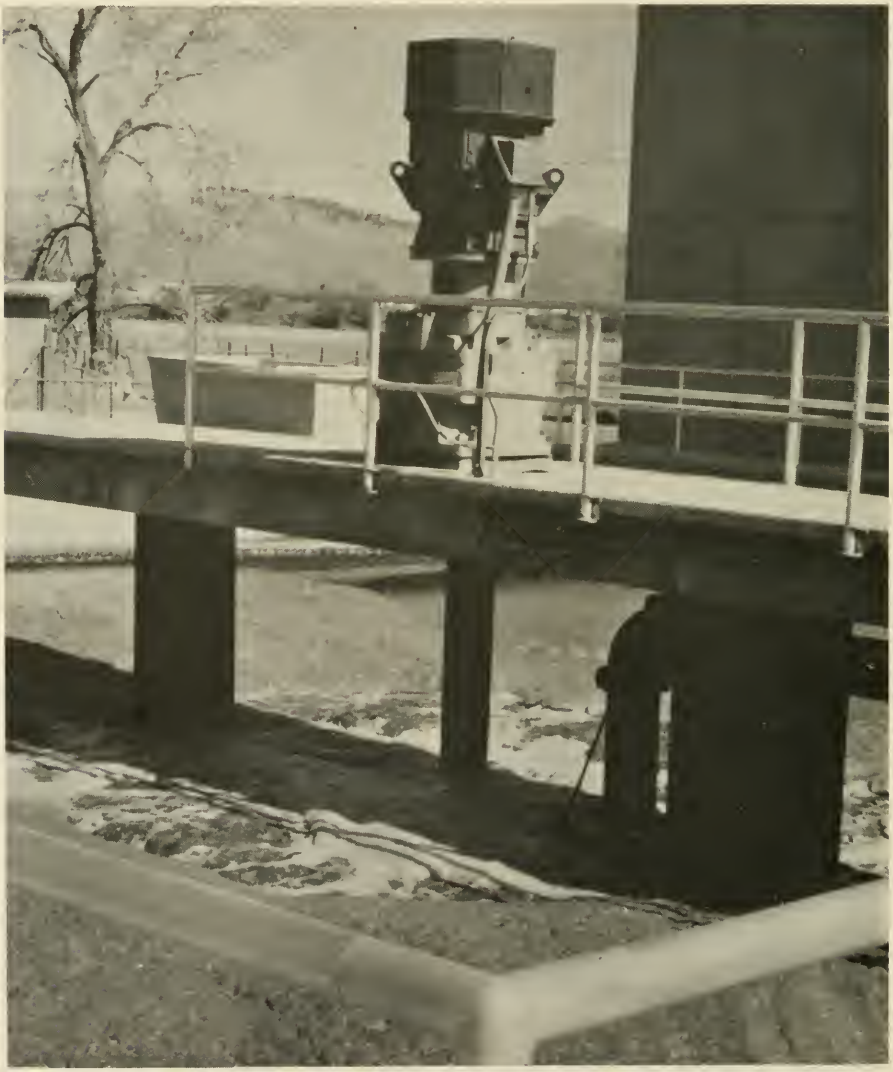
The Department of Health and Environmental Sciences' laboratory performs the necessary water analyses for the Water Quality Bureau. The Chemistry Laboratory Bureau is capable of analyzing over 60 different water quality parameters. The Microbiology Laboratory Bureau conducts bacteriological analyses for water supplies and certifies private bacteriological laboratories in the state.

The Department's laboratory division provides valuable analytical support for the Water Quality Bureau's water supply and water pollution control programs.

Monitoring the physical, chemical, and biological characteristics of streams and lakes provides valuable data for determining changes in water quality, allocating waste loads, and evaluating water pollution control efforts.

MUNICIPAL CONSTRUCTION GRANTS

Adequate sewage treatment to protect public health and the aquatic environment has been a long-time concern of water pollution control advocates. However, the costly expense of sewage treatment plant construction and changing treatment needs has imposed some real economic hardships and near impossibilities on



Federal and State construction grants for upgrading sewage treatment plants have assisted approximately 60 communities in Montana in the past five years to meet secondary treatment requirements and improve instream water quality.

our municipalities, impeding adequate sewage treatment in many cases. Both the state (Montana) and federal governments have appropriated funds over the years for the planning and construction of sewage treatment works to assist municipalities in meeting treatment requirements. Present construction grant funds made available by the federal government through EPA are administered in Montana by the Water Quality Bureau of the State Department of Health and Environmental Sciences. Funds are allocated to municipalities on the basis of need. A priority system for disbursement of funds is used since the funding needs in Montana far outweigh the available funds. Grant monies are obligated to the top communities on the priority list until the annual allocation is expended.

A 1974 survey of sewage construction needs for Montana estimated $128 million would be required by publicly owned wastewater treatment facilities for improvements and to meet today's standards. This compares with $28.2 million allocated to Montana by the federal government since 1973. Inflation has further increased this disparity between "needs" and allocated funds. Nevertheless, state and federal grants have assisted approximately 60 Montana communities with funds for planning and construction of treatment works. Major cities such as Havre, Great Falls, Billings, Kalispell, Missoula, and Helena have completed or will soon be completing secondary treatment plants. One hundred fifty six smaller communities still express a need for construction grant funds to improve sewage collection, correct infiltration, upgrade existing treatment facilities, or provide for new collection and secondary treatment facilities. Now that larger communities with their greater project costs and water pollution problems have been satisfied the Water Quality Bureau is optimistic that in the near future smaller communities will receive needed grant funding.

NONPOINT SOURCE POLLUTION

Water pollution originating from runoff and infiltration from precipitation is referred to as nonpoint source pollution. It is diffuse in nature and is directly dependent upon how people manipulate, develop and take care of their land. The pollutant culprits are sediment from accelerated erosion, increased salinity and temperatures, flow changes from dewatering, nutrient input from

domestic animals and man and toxic substances. The pollutants originate from agricultural lands, mining areas, construction sits, urban storm drains and streets, high density recreation areas, forest lands and subdivisions where available and sound conservation, reclamation and engineering design practices have been ignored. These pollutants can impair the ultimate use of water for recreation, agriculture, industry and public water supplies.

Pollution from nonpoint sources is Montana's greatest water quality problem. We know successful control of nonpoint source pollution can be achieved through comprehensive resource planning and land management techniques. Effective conservation and engineering practices are readily available for correcting many of our land use problems, and further research and study will undoubtedly provide us even more. Presently, the greatest challenge we face is the task of universally employing these practices in our resource development and utilization schemes.

People of Montana will soon need to decide how best to implement these land management practices. Will these practices continue to be promoted through educational channels and voluntary acceptance? Should financial assistance be provided as encouragement when needed conservation practices impose economic hardships without alternative means for compensation to the land owner? Can we accept land use regulations as a regulatory tool to universally employ land management practices? And what levels of government should assume these educational and regulatory responsibilities? Whatever the choices, certain modifications of our values and patterns of behavior will be a necessity if we are to be successful in bringing some degree of control to nonpoint source pollution.

Local and statewide planning efforts are currently underway, through a federal grant program, to tackle these problems. These programs are holding numerous public meetings in local areas to receive public input. Everyone's interest is welcomed and needed.

If you are interested in getting involved or initiating a public meeting in your locality, you can write or call the following organizations:

Section 208* Water Quality Planning Agency	Address Location Phone No.	Boundary
Yellowstone-Tongue	Box 503, Broadus 436-2802	Custer, Fallon, Carter, Powder River, Rosebud, Treasure Counties
Mid-Yellowstone	3300-2nd Ave., No., Suite #2, Billings 245-6619	Sweet Grass, Still-Water, Yellowstone, Big Horn, Carbon Counties
Blue Ribbons of the Big Sky Country	Box 337, Bozeman 587-0629	Gallatin, Madison Counties
Flathead Drainage	Box 1000, Kalispell 755-8420	Flathead, Lake Counties
DHES - Water Quality Bureau	555 Fuller Helena 449-2406	Statewide (i.e. remainder of counties, exclusive of above local agencies)

*Other local planning agencies may be created pending additional federal funding.

A sediment control project under the direction of the Water Quality Bureau; Department of Natural Resources and Conservation; and Lewis and Clark County Conservation District will test the feasibility of adopting and implementing sediment control regulations in Lewis and Clark County under the conservation district law. A series of committees have been formed to develop proposed regulations. Anyone interested in this project should contact either the Water Quality Bureau in Helena or the Lewis and Clark County Conservation District.

Excessive erosion of croplands, grasslands, construction sites, forests and mining sites are examples of nonpoint source pollution. Above, a poorly constructed road gives way to the erosive forces of nature, causing harmful downstream sedimentation.

Increased salinity in our streams and lakes is another example of nonpoint source pollution. It is caused by too much marginal lands under irrigation or in dryland crop production and poor irrigation practices.

X X X X X X X

The quality of our water will determine their value and usefulness in the future for agricultural, industrial, and domestic use, recreation and fish and wildlife.

X X X X X X X

Industry and municipalities, landowners, land developers, water users and each citizen all have an equal obligation to protect our state waters.

X X X X X X X

Quality water for Montana will require the cooperation and support of all Montanans.

X X X X X X X

It will cost Montanans less if we protect our waters now for future beneficial uses rather than clean up at a later date waters that we have allowed to become polluted.

X X X X X X X

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